Santiago Garcia Rios

Computational Neurobiologist | Science Communicator | Data Educator

santi-rios.github.io

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Concluding a Master's degree in Neurobiology and Behavior at the National Autonomous University of Mexico (UNAM). Currently developing and managing software focused on data handling, presentation and teaching statistical and computer concepts for medical sciences.

Education

National Autonomous University of Mexico (2023-2025)

Master of Science Neurobiology and Behavior

Courses: Characterization of fluoxetine effects on behavior and spatial learning in a mouse model of mild stress; Developed and implemented new methods to assess depressive-like behavior and cognition using R via WebAssembly in serverless computing

National Autonomous University of Mexico (2018-2022)

Bachelor of Science Biology

Courses: Effects of transcranial magnetic stimulation on the expression of cannabinoid receptors in a rat model of brain injury; Implemented laboratory techniques in immunology, genetics, and behavior

Work

Writer for "Revista Nexos"

ciencia.nexos.com.mx

Jan 2021 – Present

Science communication articles with focus on discussing the scientific method, philosophy, ethics, mental health and computational neurobiology.

Builder of Learning Systems and teaching.

orcaasesina.com

Site administrator and Teacher

Dec 2023 – Present

Created and manage an open-access LMS (orcaasesina.com) for Spanish-speaking students in health and biological sciences. Taught over 100 students.

- Introduction to R for the Health Sciences. Uses WebAssembly to deploy the R console and dependencies within the course.
- Introduction to Biological Sciences. This course includes leassons that cover: physiology, mollecular and cell biology, evolution, genetics and ecology.

Researcher

Undergraduate-Masters

Feb 2015 – Present

Computational neurobiologist with extensive research experience in memory and learning.

- I have worked in the two most scientifically prestigious laboratories in Mexico, according to Stanford University's World's Top 2% Scientists ranking: those of Dr. García Sainz and Dr. Rattoni at the Institute of Cellular Physiology, UNAM.
- Collaborated with Dr. Dan Chitwood in the Department of Computer Science, Mathematics, and Engineering at the University of Michigan (publication in progress) and with Dr. Guillermo Restrepo (Max Planck Institute).
- My research includes the evaluation of the therapeutic effects of cannabinoid receptors in traumatic brain injury, in collaboration with Dr. Luz Navarro and Leticia Verdugo.
- Speaker at international scientific conferences (Neuroscience 2019).

Skills

Programming Languages

R Bash Python Shiny JavaScript HTML CSS Markdown SQL webAssembly

Tools

Docker LaTeX Git GitHub RStudio VSCode Jupyter Notebook Photoshop

Molecular and Cellular Biology Techniques

PCR Western Blot ELISA Immunofluorescence Cell Culture Microscopy

Languages

English

C2

Spanish

Native

Publications

Shiny application for the exploration of the papper *China's rise in the chemical space and the decline of US influence* (2025)

github.com/santi-rios/Chemical-Space

This application provides an immersive exploration of global chemical research trends from the paper "*China's rise in the chemical space and the decline of US influence*". Built for technical depth, interactive visualizations, user experience and optimized handling of large datasets.

Quarto-Latex Docker template for easy doctoral thesis writing. (2025)

github.com/santi-rios/UNAM-Tesis-TodoEnUno

IA, cognición humana y juegos de estrategia (2025)

Nexos

ciencia.nexos.com.mx/ia-cognicion-humana-y-juegos-de-estrategia

Science communication article explaining the similarities and differences between artificial intelligence and human cognitive processes.

Quarto Serverless Data exploration app hosted in Github pages. (2024)

github.com/santi-rios/r-shinylive-demo

Serverless shiny-r app for behaviour analysis in the morris water maze. (2023)

santi-rios.github.io/maestria_app_water_maze

Applying the Euler Characteristic Transform to protein structures

Research collaboration with Dr. Dan Chitwood (Michigan State University). Publication currently in progress.

Un repaso por la esquizofrenia y sus tratamientos (2022)

Nexos

discapacidades.nexos.com.mx/un-repaso-por-la-esquizofrenia-y-sus-tratamientos

Science communication article reviewing the current treatments for schizophrenia.

Bueno para la salud, científicamente comprobado (2021)

2021

ciencia.nexos.com.mx/bueno-para-la-salud-cientificamente-comprobado

Science communication article expanding on the scientific method and its misconceptions.

Antidepresivos: serendipia y efectos inesperados (2021)

Nexos

discapacidades.nexos.com.mx/antidepresivos-serendipia-y-efectos-inesperados

Science communication article reviewing the decades on antidepressants research.

Alzheimer: últimas noticias (2021)

Nexos

discapacidades.nexos.com.mx/alzheimer-ultimas-noticias

Science communication article updating the Alzheimer disease treatments and state in Mexico.